DRAFT - Category 4b Demonstration for New York City Water Quality Limited Segments

Supplement to the 'DRAFT NYS 2018 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy'

Executive Summary

In accordance with USEPA's suggestions in the *Information Concerning 2008 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions* guidance memorandum issued October 12, 2006 (2008 IR Memo), the New York State Department of Environmental Conservation (NYSDEC) is providing this justification supporting our Integrated Report (IR) Category 4b determinations concurrent with our Draft 2018 303(d) List of TMDL Impaired Waters (the List). The waters subject to this justification are in and around New York City and impacted by discharges from outfalls managed by the New York City Department of Environmental Protection ("NYCDEP") and owned by the City of New York ("the City"). The following IR Category 4b Demonstration is for New York City water quality limited segments that are impaired by pathogens, low dissolved oxygen, and/or nitrogen. This document demonstrates that regulatory controls are in place and monitored such that development of a TMDL is unnecessary – as such, these waters do not meet the requirements of 40 CFR Part 130.7(b)(1) for inclusion on the 303(d) list. These waters do meet USEPA's definition for IR Category 4b as water quality limited segments where other required control measures are expected to result in the attainment of an applicable water quality standard in a reasonable period of time. Although the 2008 IR Memo states "controls relied on for Category 4b demonstrations do not always need to occur pursuant to binding legal authority" the controls detailed herein are legally required by the CSO-related Orders on Consent dated June 26, 1992 (Case No. R2-3351-90-12) ("the 1992 Order"), September 19, 1996 (Case No. R2-3351-90-12) ("the 1996 Order"), January 14, 2005 (Case No. CO2-20000107-8) ("the 2005 Order"), April 14, 2008 ("the 2008 Order"), September 3, 2009 ("the 2009 Order"), April 30, 2012 (Case No. CO2-20110512-25) ("the 2012 Order), the First Amended Nitrogen Consent Judgement (June 27, 2011) (FANCJ), and USEPA *Combined Sewer Overflow (CSO) Control Policy*, 59 Fed. Reg. 18688 (April 19, 1994) (EPA CSO Policy). These Orders, Judgements, and Policy legally bind NYCDEP to install controls that are purposed to attain water quality standards (WQS).

The waterbody/pollutant combinations covered under this justification are not "water quality-limited segments still requiring TMDLs" as defined in 40 CRF Part 130.7(b)(1). These waters have controls in place or NYSDEC approved plans to address pollution that make a TMDL unnecessary and therefore are not required to be included on the NYS Section 303(d) List of Impaired Water Requiring a TMDL. The regulations under 130.7(b)(6)(iv) allow the State to demonstrate good cause for not including waters on the 303(d) List. This document is a good faith effort to comply with USEPA's 2008 Integrated Reporting Guidance. The Clean Water Act (CWA) and its supporting regulations substantiate that NYSDEC is not required to include the subject waters on the CWA Section 303(d) List of Impaired Waters.

1. Identification of segment and statement of problem causing the impairment

Segment Descriptions/Impairment & Pollutants/Pollutant Source:
The following waterbody/pollutant combinations are deemed by NYSDEC to have pollution controls in place that will result in attainment of water quality standards within a reasonable amount of time. Table 1 details the current water quality impairments and causes, Table 2 describes the segment boundaries.

Table 1 – Segment Identification, Impairments, and Pollution Sources covered by this Justification

Segment Name	Assessment Unit ID	Waterbody Class	Impairing Pollutant	Pollutant Source	List/IR Status	Impairment Group[1]
Alley Creek/Little Neck Bay Trib	NY1702-0009	I	D.O./Oxygen Demand	CSOs, Urban/Storm	Part 3c	A
Alley Creek/Little Neck Bay Trib	NY1702-0009	I	Pathogens	CSOs, Urban/Storm	Part 3c	A
Flushing Creek/Bay	NY1702-0005	I	D.O./Oxygen Demand	CSOs, Urban/Storm	Part 3c	A
Flushing Creek/Bay	NY1702-0005	I	Pathogens	CSOs, Urban/Storm	Part 3c	A
Bergen Basin	NY1701-0009	I	Nitrogen	Urban/CSO,Municip	IR 4b	A/B
Bergen Basin	NY1701-0009	I	Oxygen Demand	Urban/CSO,Municip	IR 4b	A/B
Bergen Basin	NY1701-0009	I	Pathogens	CSOs, Urban/Storm	Part 3c	A
Thurston Basin	NY1701-0152	I	Oxygen Demand	Urban/CSO,Municip	Part 3c	A/B
Thurston Basin	NY1701-0152	I	Pathogens	CSOs, Urban/Storm	Part 3c	A
Coney Island Creek	NY1701-0008	I	D.O./Oxygen Demand	Urban/CSO,Municip	Part 3c	A
Coney Island Creek	NY1701-0008	I	Pathogens	CSOs, Urban/Storm	Part 3c	A

[1] 'Impairment Group,' a term unique to this justification, added to associate the legal mandates each impaired waterbody/pollutant combination are subject to. For segments assigned to Impairment Group A, the 2005 Order, the 2012 Order, and the EPA CSO Policy bind NYCDEP to complete the required controls. For Impairment Group A/B, a subset of seven impaired waterbody/pollutant combinations also in Group A, the legal authority of the 2011 FANCJ is additionally applicative.

Table 1 – Segment Identification, Impairments, and Pollution Sources covered by this Justification (con't)

Segment Name	Assessment Unit ID	Waterbody Class	Impairing Pollutant	Pollutant Source	List/IR Status	Impairment Group
Newtown Creek and tidal tribs	NY1702-0002	SD	D.O./Oxygen Demand	CSOs, Urban/Storm	Part 3c	A
Newtown Creek and tidal tribs	NY1702-0002	SD	Pathogens	CSOs, Urban/Storm	Part 3c	A
Westchester Creek	NY1702-0012	I	D.O./Oxygen Demand	CSOs, Urban/Storm	Part 3c	A
Bronx River, Lower	NY1702-0006	I	D.O./Oxygen Demand	CSOs, Urban/Storm	IR 4b	A
Bronx River, Lower	NY1702-0006	I	Pathogens	CSOs, Urban/Storm	Part 3c	A
Bronx River, Middle, and tribs	NY1702-0106	B	Pathogens	CSOs, Urban/Storm	Part 3c	A
Hutchinson River, Lower, and tribs	NY1702-0003	SB	D.O./Oxygen Demand	CSOs, Urban/Storm	Part 3c	A
Jamaica Bay, Eastern, and tribs (Queens)	NY1701-0005	SB	Nitrogen	Urban/CSO,Municip	IR 4b	A/B
Jamaica Bay, Eastern, and tribs (Queens)	NY1701-0005	SB	Oxygen Demand	Urban/CSO,Municip	IR 4b	A/B
Jamaica Bay, Eastern, and tribs (Queens)	NY1701-0005	SB	Pathogens	CSOs, Urban/Storm	Part 3c	A
Hendrix Creek	NY1701-0006	I	Nitrogen	Urban/CSO,Municip	IR 4b	A/B
Hendrix Creek	NY1701-0006	I	Oxygen Demand	Urban/CSO,Municip	IR 4b	A/B
Hendrix Creek	NY1701-0006	I	Pathogens	CSOs, Urban/Storm	Part 3c	A
Shellbank Basin	NY1701-0001	I	Oxygen Demand	Urban/CSO,Municip	Part 3c	A/B
Shellbank Basin	NY1701-0001	I	Nitrogen	Urban/CSO,Municip	IR 4b	A/B
Mill Basin and tidal tribs	NY1701-0178	SB	Oxygen Demand	Urb/Storm Runoff	IR 4b	A/B

Table 2 – Descriptions of Segment Boundaries

Segment Name	Assessment Unit ID	Descriptions of Segment Boundaries
Little Neck Bay	NY1702-0029	This segment includes the estuary water south of a line from Willets Point to Elm Point. Alley Creek and a trib to Little Neck Bay are listed separately.
Alley Creek/Little Neck Bay Trib	NY1702-0009	This segment includes entire tidal portion of Alley Creek, as well as a smaller unnamed trib (–20) to Little Neck Bay.
Flushing Creek/Bay	NY1702-0005	This segment includes the entire bay and tidal stream.
Bergen Basin	NY1701-0009	The segment includes the entire basin and tributaries, above the mouth at Jamaica Bay.
Thurston Basin	NY1701-0152	The segment includes the entire basin and tributaries, above the mouth at Jamaica Bay.
Coney Island Creek	NY1701-0008	This segment includes the entire tidal stream.
Newtown Creek and tidal tribs	NY1702-0002	This segment includes the entire Newtown Creek and tribs, including Whale Creek (–2), Dutch Kills (–3), Maspeth Creek (–7), East Branch (–8) and English Kills (Upper Newtown Creek).
Westchester Creek	NY1702-0012	This segment includes the entire tidal stream, including Pugsley Creek.
Bronx River, Lower	NY1702-0006	This segment includes the tidal portion of the river from the mouth to East Tremont Avenue in the Bronx.
Bronx River, Middle, and tribs	NY1702-0106	This segment includes the river and tribs from East Tremont Avenue in the Bronx to the Bronx–Westchester County line.
Hutchinson River, Lower, and tribs	NY1702-0003	This segment includes the tidal portion of the stream and all tribs from the mouth to East Sandford/Colonial Avenue in Pelham. The waters of this portion of the stream are Class SB. Tribs to this reach/segment are also Class SB. The Middle, Upper Hutchinson River are listed separately.
Jamaica Bay, Eastern, and tribs (Queens)	NY1701-0005	This segment includes the eastern portion of Jamaica Bay that lies within the boundaries of Queens County, and east of a line from southeasterly tip of Coney Island peninsula near Manhattan Beach to westerly shoreline west of lookout tower on Rockaway Point. The waters of Jamaica Bay include Gerritsen Inlet, Dead Horse Bay, Head of Bay and all waters of Jamaica Bay and Rockaway Inlet for which a waters index number has not been assigned within Kings and Queens Counties. The waters of this segment are designated Class SB.
Hendrix Creek	NY1701-0006	The segment includes the entire basin and tributaries, above the mouth at Jamaica Bay.
Shellbank Basin	NY1701-0001	The segment includes the entire basin and tributaries, above the mouth at Jamaica Bay.
Mill Basin and tidal tribs	NY1701-0178	The segment includes the entire basin and tributaries, above the mouth at Jamaica Bay.

For the segments associated with Impairment Group A in Table 1, the sources of pollution identified are combined sewer overflow and urban stormwater runoff ("CSOs, Urban/Storm" as referenced in the Table). The terms of these 2005 & 2012 Orders detail the CSO abatement requirements for NYCDEP to be accomplished through the construction CSO control facilities and improved stormwater management practices.

For the segments associated with Impairment Group A/B in Table 1, where the source is identified as "Urban/CSO,Municip", these impairments are driven by additional nitrogen loads from the NYCDEP water pollution control plants (WPCP). Nitrogen loads from the WPCP also drive low dissolved oxygen impairments in these segments. In addition to meeting requirements of the 2005 & 2012 Orders, the terms of the FANCJ dictate biological nitrogen removal (BNR) upgrades to NYCDEP WPCPs with requirements to reduce nitrogen loads to Jamaica Bay and its tributaries.

2. Description of pollution controls and how they will achieve water quality standards

Water Quality Targets

For the waterbody/pollutant combinations in both Impairment Groups A and A/B, the water quality targets are the applicable NYS Water Quality Standards (WQS), as detailed in Table 3. Waterbody classifications for the subject segments are listed in Table 1. A more detailed discussion of the classifications, WQS, and best uses can be found in 6 NYCRR Part 700 and 703.

Pathogens and dissolved oxygen have numeric WQS applicable for each waterbody class which serve as the water quality targets for the CSO controls. Nitrogen has a narrative WQS where a target value is not explicitly stated, but is derived by examining how pollutant loads affect best uses for the waterbody of concern. For Jamaica Bay, the nitrogen water quality targets are performance based and stipulated in Appendix C of the 2011 FANCJ. Nitrogen pollution in Jamaica Bay is responsible for the low dissolved oxygen conditions found in and around the Bay, therefore the applicable dissolved oxygen WQS will be the water quality target for nitrogen. Methods for calculating the performance based nitrogen limits, that will drive the requirements for additional WPCP upgrades, are found in Appendix D of the 2011 FANCJ.

It should be noted that most of these waters are already in attainment of WQS during dry weather. CSO control projects work to reduce or eliminate the time required for these segments to return to compliance after a wet weather event.

Table 3 – NYS Water Quality Standards for 2005 & 2012 Order/FANCJ Affected Waters

WQS Parameter	Class B	Class SB	Class I	Class SD
Dissolved Oxygen	For nontrout waters, the minimum daily average shall not be less than 5.0 mg/L, and at no time shall the DO concentration be less than 4.0 mg/ L.	Chronic: Shall not be less than a daily average of 4.8 mg/L Acute: Shall not be less than 3.0 mg/L at any time.	Shall not be less than 4.0 mg/L at any time.	Acute: Shall not be less than 3.0 mg/L at any time.
Fecal Coliform (Pathogens)	The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.			
Phosphorus and nitrogen	None in amounts that will result in growths of algae, weeds and slimes that will impair the waters for their best usages.			

Point and non-point source loadings that when implemented will achieve WQS

The EPA *Combined Sewer Overflow (CSO) Control Policy*, 59 Fed. Reg. 18688 (April 19, 1994) (EPA CSO Policy) establishes requirements for CSO control efforts, including specifications for Long Term Control Plans (LTCP) for waters impacted by CSOs. In the EPA CSO policy, a framework of 'nine minimum controls' for effective CSO management is established as follows:

1. Proper operation and regular maintenance programs for the sewer system and CSO outfalls
2. Maximum use of the collection system for storage
3. Review and modification of pretreatment requirements to ensure that CSO impacts are minimized
4. Maximization of flow to the POTW for treatment
5. Elimination of CSOs during dry weather
6. Control of solid and floatable materials in CSOs
7. Pollution prevention programs to reduce containments in CSOs
8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts
9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

The 2005 & 2012 Orders rely on the EPA CSO Policy to set science-based loading requirements for the attainment of WQS. Under the EPA CSO Policy, the long-term control plans are to comply with the "objectives and requirements" of the CWA. Hence, the LTCPs must meet the fishable/swimmable use of the CWA "wherever attainable" under sections 101(a)(2) of the CWA, 33 U.S.C. § 1251(a)(2). The EPA CSO Policy recognizes that WQS may not be attained during all weather and all conditions, and allows for intermittent exceedance and seasonal attainment goals provided the overall fishable/swimmable uses of the CWA are maintained.

Consistent with EPA's CSO Control Policy, DEC's CSO control strategy, implemented via the 2005 & 2012 Orders and subsequent LTCPs, reduces the frequency, duration, and intensity of CSO events.

For Impairment Group A waters, the NYCDEP CSO control programs considers the current CSO discharge condition without controls (baseline) and an ideal scenario where 100 percent of the CSO discharge can be captured and/or diverted for treatment (ideal). Modeled load reductions for each proposed control alternative are then compared to the ideal scenario along with the cost of the proposed control. Consistent with the requirements of the EPA CSO Policy, a knee-of-the-curve analysis is conducted by NYCDEP to select the most cost-effective control option for Impairment Group A waters.

The modeling efforts that are used to assess and project CSO discharges and pollutant loads must be specified in Sections 2.1 and 6 of the applicable LTCP per the prescribed LTCP outline (the 2012 Order, Appendix D).

For Impairment Group A/B waters, low dissolved oxygen is driven by nutrients in addition to the BOD in raw sewage. Nitrogen has been identified as a nutrient pollutant to Impairment Group A/B waters, that along with the CSO BOD loads, drives low dissolved oxygen. The FANCJ reduces nitrogen loads and oxygen demand to Jamaica Bay and its tributaries by prescribing treatment plant upgrades for nitrogen control. The upgrades are divided into ‘phases’ based upon how much nitrogen they can remove from the final effluent. Per the FANCJ, each WPCP is given a phased biological nitrogen removal (BNR) technology goal, upgrades are completed per the phased goal, and water quality is monitored post construction. If WQS for nutrients and dissolved oxygen are met post construction, then the FANCJ has been satisfied, no further upgrades required. If WQS are still in non-attainment after the first phase of upgrades, the requirement for the next phase of BNR upgrades is triggered and the WPCP is required to upgrade. Phased upgrades continue until WQS for nitrogen and dissolved oxygen are attained.

Controls that will achieve WQS

For Impairment Group A, a full description of all individual pollution controls must be specified in each LTCP for each water quality limited segment. Schedules for CSO projects completed or already in progress and their associated controls are identified in the Appendix A of the 2012 Order (see Table 4 for Appendix references). The 2005 Memorandum of Understanding (MOU) (supplementing the 2005 Order) between the NYCDEP and NYSDEC specifies in paragraph 2 that CSO control projects must result in the attainment of WQS. NYSDEC reviews and approves the individual LTCPs and their selected controls based on this requirement along with EPA’s CSO Control Policy.

Table 4 – 2012 Order Schedule References

Segment Name	Assessment Unit ID	2012 Order Appendix A Reference
Little Neck Bay	NY1702-0029	I, XIII
Alley Creek/Little Neck Bay Trib	NY1702-0009	I, XIII
Flushing Creek/Bay	NY1702-0005	V, XIII
Bergen Basin	NY1701-0009	VI, XIII
Thurston Basin	NY1701-0152	VI, XIII
Coney Island Creek	NY1701-0008	VII, XIII
Newtown Creek and tidal tribs	NY1702-0002	VIII, XIII
Westchester Creek	NY1702-0012	IX, XIII
Bronx River, Lower	NY1702-0006	X, XIII
Bronx River, Middle, and tribs	NY1702-0106	X, XIII
Hutchinson River, Lower, and tribs	NY1702-0003	XI, XIII
Jamaica Bay, Eastern, and tribs (Queens)	NY1701-0005	XII, XIII
Hendrix Creek	NY1701-0006	XII, XIII
Shellbank Basin	NY1701-0001	XII, XIII
Mill Basin and tidal tribs	NY1701-0178	VI, XIII

Consistent with the EPA CSO Policy, which encourages permitting authorities to "evaluate water pollution control needs on a watershed management basis and coordinate CSO control efforts with other point and nonpoint source control activities" NYCDEP has developed, and NYSDEC has approved, a Green Infrastructure Plan ("GI Plan") covering all Impairment Groups A and A/B waters. The GI Plan commits the city to stormwater capture projects that sequester the equivalent to one inch of rainfall on 10 percent of available impervious surfaces in the City by 2030. GI projects, including but not limited to rain gardens, permeable pavements, green roofs, infiltration planters, trees and tree boxes, and rainwater harvesting systems will aid the NYCDEP in reaching WQS attainment goals by capturing stormwater before it reaches any collection system and results in a discharge.

Waterbody specific discussion of planned CSO controls can be found in the applicable LTCPs. Per the prescribed LTCP Outline (Appendix D) in the 2012 Order, Section 8 of the LTCP, contains a more specific discussion of the pollution controls to be implemented, alternatives considered, and how the implemented controls will achieve WQS in Impairment Group A waters.

For Impairment Group A/B waters, details of the required Phase I BNR nitrogen controls for the Jamaica Bay WPCPs can be found in Section V.C and Appendix B of the of the 2011 FANCJ. Upon completion of Phase I, discharges from the upgraded WPCPs and receiving waters will be monitored for nitrogen and evaluated against the targets in FANCJ Appendix C. If the targets are not attained, the Phase II BNR will be required.

Description of requirements under which pollution controls will be implemented

Per ECL §17-0809 and 6 NYCRR §750-1.11, NYSDEC must set effluent limits for point-source discharges to avoid contravention of WQS. As point source discharges, CSO and WPCP effluents must meet WQS in the receiving water. Both the 2012 Order (Appendix A) and the 2011 FANCJ (Appendix B) provide details on controls that have been implemented and the controls that will be implemented by the LTCPs.

All projects covered by the 2005 & 2012 Orders and FANCJ are paid for by NYCDEP. At the time of the 2012 Order, NYCDEP had already spent $1.7 billion on CSO control projects and is required to spend an additional $0.6 billion implementing the remaining items in the 2012 Order. Not included in these estimates is $187 million committed by NYCDEP for the GI Plan. Due to the performance based limits, the FANCJ does not specify budgets for BNR upgrades, but it does require NYCDEP to commit $13 million in funding for environmental benefit projects ("EBPs") for salt marsh restoration in Jamaica Bay, and pay a $2 million penalty intended for the same purpose.

3. An estimate or projection of the time when WQS will be met

For Impairment Group A waters, the Compliance Schedules detailed under Section III of the 2005 Order and Section IV of the 2012 Order, along with Appendix A (2012), detail the required milestones that must be achieved toward WQS attainment. Some projects detailed in Appendix A have already been started and the details of their respective schedules are more complete. Other projects have milestones for LTCP development detailed. Per the CWA and the EPA CSO Policy, NYSDEC may only approve (for future projects) or deem satisfactory (for existing projects) those that achieve attainment of WQS. Per the LTCP Outline (Appendix D) in the 2012 Order, Section 9.4 of the LTCP must detail the projected water quality improvements for the subject waterbodies.

For Impairment Group A/B waters, the attainment projections for nitrogen reductions in Jamaica Bay are performance based and stipulated in Appendix C of the 2011 FANCJ. Some of the projects detail in the FANCJ have already been completed.

4. Schedule for implementing pollution controls

The full schedule of implementation for Impairment Group A waters can be found in Appendix A of the 2012 Order. In 2017, the Department approved Long-Term Control Plans for Alley Creek / Little Neck Bay, Bronx River, Hutchinson River, Flushing Creek, and Flushing Bay and each of these approved LTCPs included new CSO projects. The 2018 Updates to Appendix A incorporate into the CSO Orders, the schedules for these new CSO projects. In addition, the 2018 Updates to Appendix A incorporate milestone extensions previously approved by the Department via letter. Additional details of construction milestones must be specified in Section 9.2 of the applicable LTCP per the prescribed LTCP outline (the 2012 Order, Appendix D). The implementation schedule for Jamaica Bay nitrogen reduction projects can be found in Appendix B of the 2011 FANCJ.

For Impairment Group A waters, implementation begins upon LTCP approval by NYSDEC. NYSDEC must propose a modification of the SPDES permit that incorporates the approved LTCP requirements. NYCDEP must submit an implementation schedule that includes a list of actions to be taken at each outfall. The implementation plan will include: expected due date for

completion, wet weather operating plan, schedule of compliance for design and construction, post-construction monitoring plan for the water quality parameters to ensure effectiveness of CSO controls. Confirmation that water quality standards are met, any special conditions, and frequency of reports to be submitted to NYSDEC to document that the CSO controls are meeting the goals of the LTCP will also be included in the implementation plan.

5. Monitoring plan to track effectiveness of pollution controls

For Impairment Group A waters, paragraph 13 of the 2005 Order binds the NYCDEP to complete Post Construction Monitoring (PCM) for all completed CSO projects. Additional details of the PCM can be found in Compliance Schedule paragraph C of the 2012 Order. This is to supplement ongoing monitoring of CSO impacted waters, for CSO impacted parameters as stipulated in the 1992 Order.

Additional details of PCM must be specified in Sections 4.3 and 9.5 of the applicable LTCP per the prescribed LTCP outline (the 2012 Order, Appendix D).

The following are some additional NYSDEC monitoring strategies to ensure compliance with the CSO policy:

- Each CSO outfall in NY is required to have coverage under a SPDES permit and is required to report on the progress of implementing CSO controls included in the LTCP. Permittees are also required to continue implementing the applicable best management practices listed in their SPDES permit.
- Permittees must complete and submit a CSO Annual Report to document the progress of their CSO control program.
- NYSDEC performs annual inspections and documents progress regarding the implementation of the LTCPs and nine minimum control measures (discussed on page 8).
- Implementation of the Sewage Pollution Right to Know law to report to the public when and where CSO events occur and, when possible, their volume.

For Impairment Group A/B waters, nitrogen monitoring to track the success of BNR upgrades is detailed under Section V.C.3 and Section VII of the 2011 FANCJ.

6. Commitment to revise pollution controls, as necessary

As described, the City and NYCDEP are legally required to complete the work specified in the 2005 & 2012 Orders and FANCJ and meet the WQS set by the Department for all subject waters. Pursuant to ECL §71-1929, a person who violates any of the provisions of, or who fails to perform any duty imposed by ECL Article 17 or the rules and regulations of the Department promulgated pursuant thereto, or the terms of any certificate, order or permit issued thereunder shall *inter alia*, be liable for a penalty not to exceed thirty-seven thousand, five-hundred dollars ($37,500) per day for each violation, and may also be enjoined from conducting such activity. Under NYSDEC oversight, NYCDEP will use the PCM data to evaluate the effectiveness of the installed CSO controls and BNR upgrades and pursue appropriate actions should water quality fail to meet requirements. Appropriate actions could take the form of monetary penalties as described above. In cases where NYCDEP has fulfilled all documented planning and

construction requirements, yet water quality goals are not met, or in cases of force majeure, NYSDEC and NYCDEP will renegotiate and/or enter into a new consent order with updated or improved controls prescribed. The history of the 1992, 1996, 2005 2009, and 2012 Orders and the 2011 FANCJ show that both the City of New York and NYSDEC are committed to monitor, evaluate, and revise the CSO and nitrogen control measures as necessary to ensure that WQS are attained.

For Impairment Group A waters, per the prescribed LTCP outline, Sections 4.3, 9.5, and 9.7 of the applicable LTCP detail the commitment to revise controls should the plan fail to meet WQS.

For Impairment Group A/B waters, Section III.G and Appendices C & D of the 2011 FANCJ detail how performance based nitrogen limits will be implemented, and additional controls constructed and installed in the event that WQS are not met.